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ABSTRACT

The contribution of graduates' collegiate goals and career outcomes to satisfaction with their degree programs was studied using multiple regression analysis. Gender and major field differences in satisfaction were also assessed. A total of 640 baccalaureate degree recipients from a midwestern university were studied over 2 years. Respondents were grouped by the departments of their majors into six field categories: realistic, artistic, investigative, social, enterprising, and conventional. As predicted, general satisfaction with degree programs was significantly affected by graduates' views of the personal importance of educational development, the personal importance of career preparation, their annual salary, and their field of employment. Analyses for each gender found that females weighed personal and social development significantly, while males did not. However, males weighed career preparation significantly, while females did not. Major field differences in weights for goals and outcomes were found, but predictions concerning these differences were supported only weakly. Implications of these data on curriculum development are considered. (Author/SW)

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The Influence of College Graduates' Collegiate Goals and Career Outcomes on Satisfaction with Their Degree Programs

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Running head: COLLEGIATE GOALS AND CAREER OUTCOMES

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Abstract

This study used multiple regression analyses to examine the contribution of graduates' collegiate goals and career outcomes to satisfaction with their degree programs. Gender and major field differences in satisfaction also were assessed. As predicted, general satisfaction with degree programs was significantly affected by graduates' views of the personal importance of educational development, the personal importance of career preparation, their annual salary, and their field of employment. Analyses for each gender found that females weighed personal and social development significantly, while males did not. However, males weighed career preparation significantly, while females did not. Major field differences in weights for goals and outcomes were found, but predictions concerning these differences were supported only weakly. Implications of these data on curriculum development are considered.

The Influence of College Graduates' Collegiate Goals and Career Outcomes on Satisfaction with Their Degree Programs

Objective

Diminishing enrollments and restricted financial resources have contributed to contemporary emphasis in higher education on assessment of students' satisfaction with their academic programs and with outcomes derived from their education. In earlier decades data from students focused rather narrowly on evaluations of their instructors and courses and on follow-up of their post-graduation employment. Greater emphasis recently has been placed on global assessment of students' collegiate experiences and on educational, career, and personal benefits derived from those experiences. These evaluations, which are received from students who are still enrolled in colleges and universities or who have graduated from these institutions, can critically influence evaluations of programs and internal distribution of institutional resources.

Assessment of students' satisfaction with their collegiate experiences normally has concentrated on variables which are intrinsic to a university, either within a program (e.g., quality of the faculty, teaching style, or faculty-student interaction) or within other services and opportunities for students (e.g., counseling, relationships with other students, extracurricular activities, or administration). Interest in these variables is based on an assumption that the effectiveness and style of institutional delivery of education and services to students are primary contributors to satisfaction. However, this focus has minimized the contribution of factors outside a university to satisfaction with degree programs. Particularly, little attention has been given to the student as a source of variablility in reactions to degree programs.

Entering student characteristics have been found to contribute little to prediction of satisfaction with degree programs (Astin, 1977; Braskamp, Wise, & Hengstler, 1979). However, Morstain (1977) and Gruber (1980) noted that there has been little study of the effects of students' goals in college (e.g., an education, a social life, or career preparation) and of the career outcomes gained from collegiate experiences (e.g., type of employment or salary level) on satisfaction with degree programs. This is a particularly important concern when satisfaction is measured on follow-up surveys of an institution's graduates. Retrospective appraisal of an institution by graduates is quite likely to be influenced by the degree to which personal goals and career plans were fulfilled. For example, after students have graduated from an institution and found employment, their field of employment and salary may come to exert considerable influence on ratings of satisfaction with educational programs and experiences. Study of the contribution of graduates' goals and career outcomes to satisfaction with degree programs should help colleges and universities gain a better understanding of their students, interpret surveys of graduates' reactions to their programs, and thereby assist in program review, development, and delivery.

The focus of the present study, then, was to assess the influence of the personal goals and career outcomes of graduates on satisfaction with their degree programs. Also, as Hearn (1985) found that reactions to curricular aspects of degree programs are different across major fields and genders, these variables were included in the present research. The three specific research questions addressed in this study were:

* How do graduates weigh various goals for their college experiences and their career outcomes in satisfaction with their degree programs?
* How do gender differences affect the weight given to goals and career outcomes in determination of satisfaction with degree programs?
* How do academic field differences affect the weight given to goals and career outcomes in determination of satisfaction with degree programs?

Selection of Measures

Multiple regression analyses were employed in this research. The dependent variable in these analyses was a measure of general satisfaction with graduates' degree programs. Independent variables included four measures of graduates' collegiate goals, three measures of graduates' outcomes, six major field areas, and gender.

Goals. Four broad goals which students have for higher education were identified from the literature. They were general education, vocational and career-related education, development of social skills, and preparation for graduate or professional training. The first three of these goals have been examined frequently in studies of students' motives to attend college (e.g., Baird, 1967; Feldman & Newcomb, 1969; Fenske & Scott, 1973; Theophilides, Terenzini, & Lorang, 1984). Preparation for graduate or professional training was added as a fourth goal to be studied, as other research has found it to be an important goal for many students. Half of the freshmen studied by Astin, King, and Richardson (1976) desired graduate training, and Astin (1977) found that as many of two-thirds of college seniors consider graduate school in their future plans.

Career outcomes. The three career outcomes studied in this research were the type of employment gained by respondents relative to their major fields, their level of employment (full time, part time, or unemployed), and annual salary. Attention to the type of employment and annual salary gained by graduates has had long-standing interest in higher education (e.g., Astin, 1977; Feldman & Newcomb, 1969; Sewell & Hauser, 1975). The level of employment variable responded to contemporary difficulty of graduates in obtaining full time employment, particularly in the fields of their majors.

Major fields. Holland (1973) developed a system of six hexagonally-oriented personality and environmental types which result from an interaction between specific personal and cultural forces. The six types are: realistic, investigative, artistic, social, enterprising, and conventional. Holland argued that each type is most comfortable with a specific career area. The realistic type prefers careers which involve explicit or systematic manipulation of objects. The investigative type prefers careers which involve scientific observation or investigation of physical, biological, or cultural phenomena. The artistic type prefers careers which involve ambiguous or unsystematic manipulation of physical, verbal, or human material to create art or products. The social type prefers careers which involve manipulation of other people to develop, inform, or cure them. The enterprising type prefers careers which involve manipulation of people to attain organizational or economic goals. The conventional type prefers careers which involve ordered or systematic manipulation of data to a prescribed plan for attainment of organizational or economic goals.

The Holland (1983) model has been used successfully in research on the occupational choices of students (e.g., Elton, 1971; Morrow, 1971; Walsh, Vaudrin, & Hummel, 1972), the goal priorities of academic departments (Smart & McLaughlin, 1974), students' satisfaction with their academic programs (Hearn, 1985), and personalities of students who choose different majors (Yonge & Regan, 1975). This history of successful application of the Holland model provided basis for its use as the classification framework for majors in this study.

Hypotheses

The four goals and three career outcomes measured in this study were selected from literature which established their personal importance to college students. The purpose of the present study was to determine the contribution of these goals and career outcomes to graduates' satisfaction with their degree programs. Predictions for the results of this study were made for the general contribution of these goals and career outcomes on satisfaction with degree programs for all graduates, for males and females, and for Holland's fields.

All graduates. Morstain (1977) assessed students' satisfaction with their degree programs on the basis of their educational attitudes and preferences. Among variables which predicted general satisfaction were achievement, a career oriented purpose for education, and inquiry, an emphasis on the value of education for its own sake. Similar data were obtained by Peterson (1965) and by Centi and Sullivan (1967). These data led to the prediction that significant positive weights on satisfaction with the degree program would occur on graduates' ratings of the personal importance of career preparation and of educational development.

Other research has shown that attainment of a high income is an important outcome sought generally by college students (e.g., Feldman & Newcomb, 1969; Fenske & Scott, 1973; Garbin & Vaughn, 1971; Weidman, 1979). Also, the choice of a major is considered an important career decision by students (e.g., Chickering, 1969). Thus, it also was predicted that annual income and employment in the major field would have significant positive weights on satisfaction with degree programs for all graduates.

Gender. Predictions about gender effects were based on the assumption that goals and career outcomes which literature has shown to be different between genders should be weighted differently by them in ratings of satisfaction with degree programs. Research has shown consistently that women are more interested than men in personal and social development at college, while men have been more career oriented and persist more in their major fields (Alexander & Eckland, 1974; Astin, 1977; Hearn, 1985; Phelan, 1979; Spaeth, 1977). Thus, it was predicted that women would place significantly more weight than men on social and personal growth in satisfaction with their degree programs, and men would place significantly more weight than women on career development and employment in their major fields.

Major fields. Similar to predictions for gender differences, predictions about weights assigned to goals and career outcomes for each major field (realistic, investigative, social, conventional, enterprising, and artistic) were based on literature concerning goal and career outcome preferences for students in the field areas. Specifically, Holland's (1973) theory, research on the theory, and support from related research were considered in development of

predictions. It was assumed that goals or career outcomes which are important to students in a specific field would be weighted significantly by them on ratings of satisfaction with their academic programs.

Holland (1973) stated that the realistic individual is a pragmatic person who values concrete objects and tangible characteristics (money, status, and power) and is aversive to education and social relations. Career orientation in realistic majors also has been noted by Feldman and Newcomb (1969), and a lack of interest in general education has been found in several studies (Feldman & Newcomb, 1969; Smart & McLaughlin, 1974; Yonge & Regan, 1975). On this basis, it was predicted that realistic majors would give career preparation, employment in their major field, and annual salary significant positive weights on satisfaction with their degree programs, while they would give educational development and social and personal development negative weights.

Holland (1973) believed that the investigative individual is a scholarly person who values scientific inquiry and avoids social activities. Other research also has shown that these individuals value scholarship and science (Astin, 1977; Feldman & Newcomb, 1969) and preparation for advanced degrees (Astin, 1977; Smart & McLaughlin, 1974), while they exhibit less concern for social and personal development (Astin, 1977; Feldman & Newcomb, 1969; Yonge & Regan, 1975). With this primary concern for undergraduate and graduate education, career outcomes do not appear to be an immediate concern to investigative majors (Smart, 1986). It was predicted, then, that these majors would give educational development and preparation for graduate or professional training significant positive weight on satisfaction with their degree programs, while they would weigh social and personal development negatively.

Holland (1973) stated that the social individual is a person who prefers interpersonal situations and development of educational competencies and is aversive to practical situations and tangible personal benefits (e.g., money and status). Other research also has found social individuals to be high in altruistic and social interests (Astin, 1977; Feldman & Newcomb, 1969; Weidman, 1979; Yonge & Regan, 1975) and in pursuit of general education (Feldman & Newcomb, 1969; Yonge & Regan, 1975). Thus, it was predicted that social majors would give educational development and personal and social development significant positive weights on satisfaction with their degree programs, and they would weigh annual salary and employment in the major field negatively.

Holland (1973) described the conventional individual as a person who seeks organizational goals, economic gains, and business achievement. Other research also has found that conventional individuals seek career preparation and leadership (Feldman & Newcomb, 1969; Weidman, 1979). Thus, it was predicted that conventional majors would give career preparation, level of employment, annual salary, and field of the current job significant positive weights in satisfaction with their degree program.

Holland (1973) suggested that the enterprising individual is a person who seeks organizational goals, economic gains, and leadership roles. Other research also has shown that the enterprising individual is oriented to economic achievement, income, and occupational status (Feldman & Newcomb, 1969). The enterprising person tends to be aversive to scholarship and theory (Feldman & Newcomb, 1969; Yonge & Regan, 1975). Thus, it was predicted that enterprising majors would give employment level, annual salary, and field of the current job significant positive

weights on satisfaction with their degree programs, while they would weigh educational development negatively.

Holland (1973) stated that the artistic individual is a person who seeks unstructured independence and avoids the constraints of conventional occupations. Other research has found this individual to have a high interest in graduate or professional education (Astin, 1977), and little interest in career preparation (Feldman & Newcomb, 1969) or financial success (Weidman, 1979). Thus, it was predicted that artistic majors would give preparation for an advanced degree significant positive weight in satisfaction with their degree programs, and they would weigh annual salary and the field of their current job negatively.

Method

Sample

Baccalaureate degree recipients (N = 2,523) from a midwestern university participated in this research over a two year period (Fall, 1983, through Summer, 1985). Most graduates were from lower to middle economic classes, representing both urban and rural backgrounds. Many were first generation graduates, and less than 10% were from minorities.

Graduates were mailed an institutional follow-up survey from 4 to 11 months after their graduation. A letter which encouraged nonrespondents to return their surveys was sent to approximately two weeks after the surveys were mailed. Responses were obtained from 945 graduates (36%). However, information from all items used in data analyses were not obtained from 305 respondents, and their data were deleted from analyses. Particularly heavy losses in data occurred from an item which asked for information about respondents' annual salary. The resultant effective

response rate was 25%. A total of 380 of these respondents were female; 260 were male.

Respondents were grouped by the departments of their majors into six field categories by Holland (1973): 1) realistic majors (e.g., agriculture and industrial education), 2) investigative majors (e.g., chemistry, biology, and other basic sciences), 3) artistic majors (e.g., music, drama, and other areas of arts and humanities), 4) social majors (e.g., social sciences and nursing), 5) enterprising majors (e.g., marketing or management), and 6) conventional majors (e.g., accounting or compute science). A total of 68 respondents were realistic majors, 30 were investigative majors, 221 were social majors, 129 were conventional majors, 132 were enterprising majors, and 60 were artistic majors. This breakdown approximated the proportion of graduates from each category.

Measures

General satisfaction with the respondents' degree programs was obtained on an item which asked "If I could begin college again (at the University), I would choose the same degree program." Responses were made on a 5-point "Strongly Agree" to "Strongly Disagree" scale. This item was selected from alternatives on the survey as the dependent variable in the multiple regression analyses presented below. Other analyses showed that this was the single measure which correlated most strongly with items pertaining to satisfaction with specific components of curricula and university life (e.g., student activities, or specific abilities which had been developed at the university). Other support for use of this measure was found by Astin (1978), who noted that it closely approximated other measures of general satisfaction with degree programs.

Several other measures from the follow-up survey were treated as independent variables in the regression analyses. They were items pertaining to ratings of four personal goals and three career outcomes. The four personal goals were measured on items which asked the respondents to rate the importance in their collegiate experience of educational development, personal and social development, preparation for graduate or professional school, and preparation for a career (on 5-point "Strongly Agree" to "Strongly Disagree" scales).

The three career outcome items asked about respondents' current annual salary, level of employment, and field of current employment. Annual salary was measured on a scale which contained six salary ranges. Respondents checked the range which contained their present salary. Level of employment was measured on an item which asked graduates to indicate whether they were employed full time, part time, or unemployed. Respondents who were employed checked their field of current employment as being in their major, minor, another field by choice, or another field by necessity. These four alternatives were used to establish the graduates' level of departure from career preparation which had occurred in their college education.

Gender and major field, which were treated as dichotomous grouping variables, also were used as independent variables in the regression analyses reported below. These were developed according to "effect coding" strategy (Pedhazur, 1982). Gender was coded as 1 for males and -1 for females. Also, a dichotomous variable was constructed for each of Holland's (1973) six fields. The coded field was assigned a 1, and -1 was assigned to the comparison field (the artistic major for all

comparisons). Ø's were assigned to uncoded fields in each dichotomous variable.

Results

Correlations among the four goal, three outcome, and general satisfaction variables were calculated. An inspection of Table 1 indicates that most correlations were quite low (below .25). In fact, only one correlation exceeded .5Ø, and one correlation was between .4Ø and .5Ø. These low intercorrelations established that the potential problem of multicollinearity of independent variables was not present and that multiple regression analyses could be conducted with the expectation of adequate precision in the estimation of regression coefficients and standard errors (Pedhazur, 1982).

Insert Table 1 about here

Regression for All Respondents

Table 2 presents the results of the regression analysis for all respondents, which examined the impact of the goal variables, outcome variables, gender, and academic fields on overall satisfaction with the degree program. The overall R^2 was .17 ($p < .ØØØ1$). As predicted, significant main effects were found for educational development, career preparation, annual salary, and employment in the major field. A significant weight for the conventional major also was obtained. These findings indicate that students' satisfaction with the degree program was positively related to their ratings of the importance of college toward educational development, the importance of career preparation, annual salary, and employment in the major field. Among the six academic

fields, only the conventional field weighed significantly on satisfaction with the degree program.

Insert Table 2 about here

Regressions for Gender Differences

Tests for gender differences in weights assigned to the various goals and career outcomes first required calculations of the product interaction of each goal and outcome by gender. Significant interactions were found for two of the four goals (personal/social development and preparation for a career) and for the enterprising field. The presence of these significant interactions justified the computation of separate regression analyses by gender (Table 2). However, determination of significant gender differences is limited to these variables in which significant product interaction effects occurred.

The R^2 values for the regressions by gender were .22 for males and .17 for females (both p's < .0001). As predicted, these analyses revealed that males weighted preparation for a career significantly more positively than did females on their satisfaction with their degree programs, and females weighted personal and social development significantly more positively than did males. A significant positive weight occurred on satisfaction with the degree program for females among enterprising majors.

Regressions for Major Fields Differences

Product interactions for each item by major fields were calculated for each goal and outcome measure. Significant interactions were found on ratings of the importance of educational development, the importance of preparation for graduate or professional school, annual salary, and

employment status. The presence of these interactions permitted separate regression analyses to be performed for each academic field (Table 3). However, significant differences in weights in the regression analyses across major fields could only be examined for the four variables which involved significant product interaction effects. Thus, predictions pertaining to major field differences for the remaining goal variables (personal/social development and preparation for a career) and career outcome variable (field of employment) were unable to be evaluated and, therefore, were not supported. Still, results for these other variables for the entire sample are relevant to interpretation of goals and career outcomes for the major fields, and these results were considered in the discussion.

The R^2 values for these regressions for the major fields were .26 for artistic majors ($p < .05$), .29 for realistic majors ($p < .01$), .37 for investigative majors ($p < .20$), .17 for social majors ($p < .0001$), .17 for conventional majors ($p < .01$) majors, and .31 for enterprising majors ($p < .0001$).

Insert Table 3 about here

Realistic. Among the four variables which contained significant field differences, it was predicted that realistic majors would weigh educational development negatively and annual salary positively on satisfaction with their degree programs. These significant weights were not obtained.

Investigative. Among the four variables which contained significant field differences, a predicted significant positive weight was obtained for investigative majors on preparation for graduate or professional

school. A predicted positive weight for educational development was not significant. It should be noted that the sample size (N = 30) for this analysis was marginally adequate and that the overall R^2 for investigative majors was not significant ($p < .20$).

Social. As predicted, social majors were among fields which weighted educational development significantly in satisfaction with their degree programs. A predicted negative weight for annual salary was not found.

Conventional. Predicted positive weights for level of employment and annual salary for conventional majors were not significant. However, the conventional major was one field where a significant positive weight was found for educational development on satisfaction with the degree program.

Enterprising. Predicted significant positive weights for employment level and annual salary were found for the enterprising major. Indeed, the enterprising major was the only field to weigh employment level and high annual salary significantly on satisfaction with their degree programs. A predicted negative weight for educational development was not found.

Artistic. A predicted positive weight for artistic majors on preparation for graduate or professional school was obtained. A predicted negative weight for annual salary also was obtained and revealed that this was the only field to de-emphasize annual salary on satisfaction with degree programs.

Discussion

Each of the goals and career outcomes measured in this study contributed significantly to satisfaction with degree programs either for

the entire sample of respondents, or for one or more of the subgroups of respondents. Among the goals studied, educational development was a significant contributor to satisfaction with degree programs in analyses for all graduates, and particularly for social and conventional majors. Personal and social development weighed significantly in contribution to satisfaction with degree programs for females. Preparation for graduate school weighed significantly for investigative and artistic majors. Preparation for a career weighed significantly on satisfaction for all graduates, and particularly for males.

Among the career outcomes studied, level of employment contributed significantly to satisfaction with degree programs for enterprising majors. Annual salary significantly contributed to satisfaction for all graduates. While annual salary was weighed positively on satisfaction by enterprising majors, it was weighed negatively by artistic majors. Finally, the field of employment was found to have the most significant weight on satisfaction with degree programs for the entire sample of graduates.

It is clear from these results that collegiate goals and career outcomes do affect college graduates' satisfaction with their degree progams. Also, the data show that understanding the goal and outcome variables which affect any particular student requires attention to the individual's gender and major field. As suggested by the significant gender difference found for enterprising majors, gender differences within major fields also are likely to exist. Small sample sizes for several majors (realistic, investigative, and artistic) prevented these differences from being tested in the present study. Attention to them in other research still is necessary.

General Importance of Goal and Career Outcome Variables on Satisfaction

Results supported all predictions for significant weights of goal and career outcome variables on satisfaction with degree programs for the entire sample of graduates. Among the goals, educational development and preparation for a career contributed significantly to graduates' satisfaction with their degree programs. Thus, aspects of the collegiate experience which are most traditional to the mission of colleges and universities were found to be the strongest contributors to positive feelings of graduates toward their programs. Goals which have been somewhat less integral to the traditional mission of many universities (social/personal development and preparation for graduate or professional school) were not as influential on post-graduation assessment of programs. The specific career outcomes which were significant contributors to satisfaction with degree programs, annual salary and employment in the major field, were consistent with the goals which contributed to satisfaction. The most satisfied graduates appear to be those who sought a good education and preparation for a career from their collegiate experiences, and who subsequently obtained employment which provided adequate salary in their chosen fields.

These results are consistent with data obtained by Hearn (1985). He found that aspects of teaching style (e.g., course stimulation and instructor's teaching ability), which directly benefit educational and career development of students, contributed more to satisfaction with degree programs than did social support aspects of curriculum (e.g., faculty availability and interaction with other students). Although colleges and universities recently have given more emphasis to provision of support services (e.g., counseling, intramural activities) as a means

to attract and retain students, the combined results of the present study and of Hearn (1985) indicate that graduates most highly regard an institution which maintains a quality education and which enables placement in the major fields.

Gender Effects on Satisfaction

Predictions for gender effects on satisfaction with degree programs were supported fully. Regression analyses on the entire sample of graduates revealed that educational development, annual salary, and field of employment contributed to satisfaction with the degree program for males and females. Additionally, preparation for a career was a significant contributor to satisfaction expressed by males. Personal and social development was a significant contributor to satisfaction expressed by females. These results suggest that long-standing gender differences still exist in use of colleges and universities for career development and for personal development (e.g., Spaeth, 1977; Spitze & Spaeth, 1977). Males still seem to see their educational development and subsequent employment from the perspective of long-term career preparation, while females still exhibit less interest in career implications of their education and more interest in social and personal improvement (e.g., selection of a spouse).

Preparation for graduate or professional school did not weigh significantly on satisfaction with degree programs for the entire sample of graduates, nor did it weigh significantly on satisfaction for either gender. It was the only goal to fail to weigh significantly on both of these analyses. Many students claim to have an interest in graduate or professional school (Astin, 1977; Astin, King, & Richardson, 1977), but most of these graduates do not pursue graduate coursework. Table 1

revealed that this goal was rated as the least important of the four goals for the entire sample of graduates. It appears that only graduates who have the greatest interest in post-graduate course work (e.g., investigative majors) or who enter post-graduate course work, might weigh this preparation significantly. Other research could clarify this possibility.

Implications for Holland's Fields

Goals and career outcomes which contributed to satisfaction with degree programs differed across major fields areas. Specifically, the contribution to satisfaction with degree programs for the importance of educational development and preparation for graduate or professional school, the level of employment, and annual salary differed significantly between major fields. These results suggest that major fields of graduates do affect variables which contribute to satisfaction with degree programs. However, these results showed only weak support for predictions based on Holland's (1973) theory about career and personality types. None of the five weights predicted for realistic majors were obtained. One (preparation for graduate or professional school) of three predicted weights for investigative majors was obtained. One (educational development) of four predicted weights for social majors was significant. No predicted weight was obtained for conventional majors. Two (employment level and annual salary) of three predicted weights were significant for enterprising majors. Finally, two (preparation for graduate school and annual salary) of three predicted weights were significant for artistic majors.

Failure of this study to find greater support for Holland's theory may have been caused more by difficulties within this study, rather than

by problems with the theory. Several weights which had been predicted to be significant (e.g., preparation for a career and field of employment for realistic majors, or personal and social development for social majors) actually were significant. They could not be described as indicating significant field differences, however, as they occurred in variables which did not have significant product interactions. These weights, therefore, only suggested significant emphases by graduates within a major, but these weights were not appreciably different from those which occurred in other major fields. Had the overall product interactions been significant for these variables, support for Holland's theory would have been much more substantial.

This problem appears to have been caused by the quite low sample size for the investigative major field (N = 30) and the relatively low sample sizes for realistic (N = 68) and artistic (N = 60) major fields. These sample sizes are only marginally acceptable for multiple regression analyses which included the number of independent variables included in this study. The problem was most evident in the analysis for investigative majors, where the overall R^2 was as high as found for regression analyses with other fields, yet it was not statistically significant. Also, the relatively large standard errors for weights in the realistic, investigative, and artistic fields (see Table 3) were indicative of problems associated with low sample sizes. Attainment of sample sizes for these fields which approximated the samples for the remaining major fields would have decreased the error in these variables and enhanced the sensitivity of the multiple regression analyses. This would have been particularly helpful in eliciting significant product interactions in regressions on the entire sample of graduates and also

would have increased the likelihood that weights associated with specific fields would have been found to be significant.

The pattern of weights which were or were not significant in the regressions for major fields did provide additional general information about contributors to their satisfaction with degree programs. Holland's (1973) presentation of the six field types include characteristics which are descriptive of the preferred styles or situations for individuals in each field and other characteristics which are aversive to individuals in each field. Positive characteristics described for types in Holland's theory were associated with predictions for positive weights in the present study; aversive characteristics were associated with predictions for negative weights. Support for Holland's theory in this study often was found in anticipated significant positive weights for variables on satisfaction with degree programs. Only one negative weight which was anticipated actually was found. For example, negative weights which were predicted on educational development for realistic and enterprising majors were not obtained. Consistent failure of predicted negative weights to be significant may imply that the goals and career outcomes which were studied generally are not aversive or unimportant to most college graduates. Rather, different types of students give particularly high attention to specific goals and outcomes, and they contribute positively to satisfaction with degree programs. Where only average interest in a goal or outcome exists, they are not weighed on satisfaction with degree programs, rather than receive negative weights.

Curricular Implications

While previous research has emphasized the importance of factors intrinsic to a degree program on student satisfaction, this study found

that graduates' goals for their college experiences and their post-graduation career outcomes also contribute to satisfaction with programs. This research, in combination with related studies (e.g., Hearn, 1985; Yonge & Regan, 1975), has begun to reveal how students' goals and interests, preferred teaching styles, and career outcomes all contribute to satisfaction with degree programs. Refinement of data in this area still needs to occur, particularly with regard to information about major fields and gender differences within major fields. However, it is apparent that these data have the potential to serve as a basis for curriculum development which can accommodate the different needs of students in various major fields. Not only might satisfaction with degree programs be enhanced by such curricular changes, but also critical events such as college persistence, educational development, and career placement could be accomplished more successfully.

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Table 1

Intercorrelations, Means, and Standard Deviations for Goal and Outcome Variables

Variable	1	2	3	4	5	6	7	8	Mean	SD
1. Importance of Educational Development	—								4.39*	.62
2. Importance of Personal and Social Development	.29	—							4.13*	.73
3. Importance of Preparation for Graduate School	.37	.20	—						3.66*	.96
4. Importance of Preparation for a Career	.51	.23	.33	—					4.45*	.63
5. Level of Employment	.00	.06	-.09	.04	—				2.72	.60
6. Annual Salary	.07	-.03	.02	.12	.42	—			2.45	1.17
7. Field of Employment	.15	-.03	.07	.17	.19	.23	—		3.35	1.10
8. General Satisfaction	.21	.09	.16	.21	.10	.18	.31	—	3.79*	1.22

* This variable was measured on a 1-5 scale, where higher numbers indicated higher ratings of the importance of the goal variables and greater satisfaction with the degree program.

Table 2

Regression Results for Academic Satisfaction: Total Sample and Gender Differences

Indicators[a]	Regression for Total Sample (n=640)	Analysis of Gender Differences: Regression for Males (n=260)	Analysis of Gender Differences: Regression for Females (n=380)	Significant Gender Difference?
Importance of:				
Educational Development	.18* (.09)	.27* (.12)	.12 (.13)	No
Personal and Social Development	.10 (.07)	-.05 (.11)	.21** (.08)	Yes (p=.02)
Preparation for Graduate or Professional School	.07 (.05)	.08 (.08)	.09 (.07)	No
Preparation for a Career	.18* (.08)	.37** (.12)	.01 (.12)	Yes (p=.03)
Gender	-.01 (.10)			
Employment Level	-.18 (.14)	-.03 (.24)	-.27 (.18)	No
Annual Salary	.10* (.05)	.06 (.06)	.12 (.07)	No
Field of Employment	.28*** (.04)	.24*** (.07)	.32*** (.06)	No
Realistic Major	.05 (.13)	.14 (.15)	-.08 (.25)	No
Investigative Major	-.06 (.18)	-.03 (.25)	-.07 (.26)	No
Social Major	-.04 (.09)	-.17 (.20)	-.04 (.11)	No
Enterprising Major	.05 (.10)	-.08 (.14)	.30* (.15)	Yes (p=.03)
Conventional Major	.24* (.10)	.37* (.15)	.12 (.14)	No
Intercept	.86	.05	1.43	
R^2	.16	.22	.16	

Note: Regression coefficients are outside parentheses; standard errors are inside parentheses.

[a] Artistic majors were used as the regression comparison group.

*p<.05. **p<.01 ***p<.001.

Table 3

Regression Results for Academic Satisfaction: Field Differences

Indicators	Realistic Majors (n=68)	Investigative Majors (n=30)	Social Majors (n=221)	Conventional Majors (n=129)	Enterprising Majors (n=132)	Artistic Majors (n=60)	Significant Field Difference?
Importance of:							
Educational Development	-.06 (.22)	.80 (.69)	.39* (.18)	.46** (.19)	.00 (.16)	-.15 (.31)	Yes (p=.05)
Personal and Social Development	.02 (.23)	-.38 (.33)	.24* (.12)	.15 (.16)	.06 (.11)	-.24 (.25)	No
Preparation for Graduate or Professional School	-.07 (.17)	.52* (.23)	.11 (.09)	-.15 (.12)	-.01 (.10)	.63** (.18)	Yes (p=.01)
Preparation for a Career	.55* (.25)	-.23 (.49)	-.02 (.16)	.11 (.18)	.38* (.16)	.21 (.34)	No
Gender	.00 (.42)	-.09 (.48)	-.05 (.23)	-.41 (.22)	.19 (.16)	.26 (.34)	
Level of Employment	.54 (.46)	.04 (.70)	-.17 (.23)	-.29 (.38)	1.02** (.37)	-.60 (.47)	Yes (p=.01)
Annual Salary	.11 (.14)	.05 (.23)	.09 (.10)	.11 (.09)	.22** (.07)	-.48* (.20)	Yes (p=.05)
Field of Employment	.35** (.12)	.22 (.20)	.30*** (.08)	.17 (.09)	.34*** (.10)	.15 (.13)	No
Intercept	-1.13	-.21	.04	1.48	3.26	.75	
R^2	.29	.37	.17	.17	.30	.26	

Note: Regression coefficients are outside parentheses; standard errors are inside parentheses.

*p<.05. **p<.01. ***p<.001.